

Appl. No. 10/024,852
Amdt. dated 1/20/05
Reply to Office Action of 10/15/04

PATENT
Docket: PA738C1

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A telecommunications system receiver comprising:
an antenna for receiving a radio signal having a first frequency;
a mixer for mixing said radio signal to an intermediate frequency signal;
a delta-sigma analog-to-digital converter for converting said intermediate frequency signal to a digital intermediate frequency signal having a frequency that is substantially higher than chip rate;
a digital filter for converting said digital intermediate frequency signal to a digital baseband signal, said digital filter performing digital filtering with a programmable filter response; and
a baseband processor for processing said digital baseband signal.
2. (Original) The invention of claim 1 wherein said digital filter includes a first finite impulse response filter section for receiving an input signal, said first finite impulse response filter section having a first transfer function with a first programmable coefficient.
3. (Currently Amended) The invention of claim 2 wherein said digital filter further includes an infinite impulse response filter section connected to said first finite impulse response filter section, said first finite infinite impulse response filter section having a second transfer function with a second programmable coefficient.
4. (Currently Amended) The invention of claim 3 wherein said digital filter further includes a second finite impulse response filter section connected to said infinite impulse response filter section for outputting a filtered output signal in response the receipt of said input signal by said ~~programmable~~ digital filter, said second finite impulse response filter section having a third transfer function with a third programmable coefficient.
5. (Original) The invention of claim 1 wherein said baseband processor includes means for demodulating and/or despreading said digital baseband signal.

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6. (Currently Amended) The invention of claim 1 wherein said digital filter includes means for rejecting jammer signals in said digital intermediate frequency baseband signal.

7. (Original) The invention of claim 1 wherein said digital filter includes a sample rate converter.

8. (Currently Amended) The invention of claim 1 wherein said digital filter includes means for ~~eliminating any~~ removing DC bias in said digital baseband signal.

9. (Original) The invention of claim 1 wherein said digital filter includes means for adjusting the gain of said digital baseband signal.

10. (Currently Amended) A transceiver comprising:
an antenna for receiving a radio signal;
a mixer for mixing said radio signal to an intermediate frequency signal;
a delta-sigma analog-to-digital converter for converting said intermediate frequency signal to a digital intermediate frequency signal having a frequency that is substantially higher than chip rate;

a digital filter for converting said digital intermediate frequency signal to a digital baseband signal, said digital filter performing digital filtering with a programmable filter response;

a baseband processor for processing said digital baseband signal and outputting a signal; and

a transmitter for transmitting said signal.

11. (New) The invention of claim 1 wherein said digital filter includes a finite impulse response (FIR) filter section having a plurality of FIR filters coupled in series, each FIR filter having at least one programmable coefficient.

12. (New) The invention of claim 1 wherein said digital filter includes a finite impulse response (FIR) filter section having a plurality of FIR filters operative to perform lowpass filtering.

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13. (New) The invention of claim 1 wherein said digital filter includes an infinite impulse response (IIR) filter section having a plurality of IIR filters coupled in series, each IIR filter having at least one programmable coefficient.

14. (New) The invention of claim 1 wherein said digital filter includes an infinite impulse response (IIR) filter section having a plurality of IIR filters operative to perform equalization.